



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

June 12, 1998

The Honorable Shirley Ann Jackson
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Jackson:

SUBJECT: PROPOSED FINAL STANDARD REVIEW PLAN SECTION 3.9.8 AND
REGULATORY GUIDE 1.178 FOR RISK-INFORMED INSERVICE INSPECTION OF
PIPING

During the 451st, 452nd, and 453rd meetings of the Advisory Committee on Reactor Safeguards, April 2-4, April 30-May 2, and June 3-5, 1998, respectively, we met with representatives of the NRC staff, the Nuclear Energy Institute, Westinghouse Owners Group (WOG), Electric Power Research Institute, and others to discuss the proposed final Standard Review Plan Section 3.9.8 and associated Regulatory Guide 1.178 (formerly DG-1063) for risk-informed inservice inspection (ISI) of piping. We also had the benefit of the documents referenced.

Conclusions and Recommendations

1. We agree with the staff and the industry that a more risk-informed ISI program will result in reductions in the risk of piping failure, occupational radiation exposure to personnel, and associated inspection costs.
2. Regulatory Guide 1.178 should be edited prior to issuance to reduce redundancy with Regulatory Guide 1.174.
3. Regulatory Guide 1.178 should be issued in final form rather than for "trial use." We agree with the staff's intent to document the technical content of the appendices from the draft Regulatory Guide in a draft NUREG and make it available to the public.
4. The staff should expedite and complete its review of the pilot applications and the Westinghouse topical reports as soon as possible.

Discussion

Current piping inspection programs are based on Section XI of the ASME Code. When the Code requirements were established, the degradation mechanisms that affect piping and methods for assessing the risk significance of piping failures were less well understood. Both the staff and the industry believe, and we agree, that risk-informed ISI is expected to lead to reductions in the risk from piping failures, occupational radiation exposure to personnel, and associated inspection costs.

Our review of the Regulatory Guide and the appendices that were part of DG-1063, as well as the presentations by industry, lead us to believe that these methods can be used to develop risk-informed ISI programs. The Regulatory Guide provides general guidance for developing a risk-informed ISI program. The appendices to DG-1063 provide much more detail on a particular approach. We believe that the staff's decision not to include the appendices in Regulatory Guide 1.178 is correct. In general, regulatory guides should focus on fundamental guidance while allowing the licensees flexibility in demonstrating how they will apply such guidance. This should also permit the staff to focus its effort on completing the safety evaluations for the topical reports and pilot plant applications. We also believe the appendices should be released as a NUREG quickly so that technical approaches will be available for use and comment.

In many instances, Regulatory Guide 1.178 simply reiterates (or refers to) passages from Regulatory Guide 1.174 without evaluating their relevance and applicability to ISI. Examples include: the sections on defense-in-depth, safety margins, and acceptance criteria. Regulatory Guide 1.178 should be edited prior to issuance to reduce some of this redundancy.

We believe that issuing Regulatory Guide 1.178 for trial use will send the wrong message to the industry concerning the staff's willingness to consider risk-informed ISI submittals. The Commission, in approving publication of Regulatory Guide 1.174 and the associated SRP Chapter 19 in the Federal Register, directed that "the staff should perform annual reviews of Regulatory Guide 1.174 and SRP Chapter 19 and incorporate experience gained from risk-informed pilot programs when revisions are necessary." Regulatory Guide 1.178 and SRP Section 3.9.8 could also be subjected to such annual reviews and future revisions. Consequently, release for trial use is unnecessary.

The staff has informed us that it plans to complete its review of the pilot programs and the industry topical reports by December 31, 1998. Due to the importance of risk-informed ISI to the industry and the obvious benefits from its application in terms of reduced risk from piping failures, occupational radiation exposure, and associated inspection costs, we urge the staff to expedite and complete its reviews as soon as possible.

Dr. Dana Powers did not participate in the Committee's deliberation regarding Regulatory Guide 1.178.

Sincerely,



R. L. Seale
Chairman

References:

1. Memorandum dated May 12, 1998, from Malcolm R. Knapp, Acting Director, Office of Nuclear Regulatory Research, NRC, to Thomas T. Martin, Committee to Review Generic Requirements, NRC, Subject: Transmittal of Regulatory Guide 1.178: "An Approach for Plant-Specific, Risk-Informed Decision-Making: Inservice Inspection of Piping," and Standard Review Plan Section 3.9.8, "Standard Review Plan for the Review of Risk-Informed Inservice Inspection Applications."
2. Staff Requirements Memorandum dated May 21, 1998, from John C. Hoyle, Secretary, NRC, to L. Joseph Callan, Executive Director for Operations, NRC, Subject: SECY-98-015 - Final

General Regulatory Guide and Standard Review Plan for Risk-Informed Regulation of Power Reactors.

3. Westinghouse Energy Systems, WCAP-14572, Revision 1, "Westinghouse Owners Group Application of Risk-Informed Methods to Piping Inservice Inspection Topical Report," October 1997.
4. Westinghouse Energy Systems, WCAP-14572, Revision 1, Supplement 1, "Westinghouse Structural Reliability and Risk Assessment (SRRA) Model for Piping Risk-Informed Inservice Inspection," October 1997.
5. Report dated July 14, 1997, from R. L. Seale, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: Proposed Regulatory Guide and Standard Review Plan Chapter for Risk-Informed, Performance-Based Inservice Inspection.
6. Letter dated June 2, 1998, from Louis F. Liberatori, Jr., Westinghouse Owners Group, to U. S. Nuclear Regulatory Commission, transmitting Additional Comments on the Draft Regulatory Guide and Standard Review Plan for Risk-Informed Inservice Inspection.

